What is claimed is:

1.   A user authentication method for checking whether a
user is qualified for using a service provided through a network,
comprising:

    a step of registration of user authentication information
to register a numerical calculation method designated by said user
and being specific to said user as said user authentication
information together with user identification information
corresponding to said user; and

    a step of judging, when said user identification
information is transmitted from said user through said network
to a service providing site and an arbitrary numeric value is
transmitted from said service providing site through said network
to said user, whether a first calculation result obtained by using
said arbitrary numeric value which has been transmitted from said
user through said network to said service providing site agrees
with a second calculation result obtained by applying said
arbitrary numeric value to said registered numerical calculation
method to perform user authentication.

2.   A user authentication method for checking whether a
user is qualified for using a service provided through a network,
comprising:

    a step of registration of user authentication information
to register a numerical calculation method designated by said user
through said network and being specific to said user as said user
authentication information together with user identification
information corresponding to said user; and

9   a step of judging, when said user identification

10   information is transmitted from said user through said network

11   to a service providing site and an arbitrary numeric value is

12   transmitted from said service providing site through said network

13   to said user and a first calculation result corresponding to said

14   arbitrary numeric value is transmitted from said user through said

15   network to said service providing site, whether said first

16   calculation result agrees with a second calculation result

17   obtained by applying said arbitrary numeric value to said

18   registered numerical calculation method to perform said user

19   authentication.

1   3.   A network system comprising:

2   one or a plurality of user terminals by which a user

3   transmits a numerical calculation method being specific to said

4   user together with user identification information corresponding

5   to said user through a network to a service providing site and

6   transmits a first calculation result obtained by applying a given

7   numeric value to said numerical calculation method through said

8   network to said service providing site;

9   one or a plurality of service providing sites to register

10   said numerical calculation method together with said user

11   identification information corresponding to said user, to

12   transmit an arbitrary numeric value through said network to said

13   user terminal when said user identification information is

14   transmitted from said user terminal through said network and to

15   judge, when said first calculation result corresponding to said

16   arbitrary numeric value is transmitted from said user terminal

17   through said network, whether said first calculation result

18   agrees with a second calculation result obtained by applying said

19   arbitrary numeric value to said registered numerical calculation

20   method to perform said user authentication.

1   4.   The network system according to Claim 3, wherein said

2   user terminal has a function of displaying said arbitrary numeric

3   value transmitted from said service providing site.

1   5.   The network system according to Claim 3, wherein said

2   user terminal has a function of outputting, by voice, said

3   arbitrary numeric value transmitted from said service providing

4   site.

1   6.   The network system according to Claim 3, wherein said

2   user terminal is made up of a portable cellular phone or a personal

3   digital assistant, having a function of displaying said arbitrary

4   numeric value transmitted from said service providing site.

1   7.   The network system according to Claim 3, wherein said

2   user terminal is made up of a portable cellular phone or a personal

3   digital assistant, having a function of outputting, by voice, said

4   arbitrary numeric value transmitted from said service providing

5   site.

1   8.   The network system according to Claim 3, wherein said

2   first calculation result is input by voice of said user to said

3   user terminal and is transmitted through said network to said

4   service providing site and wherein said service providing site

5   has a function of performing voice recognition of said first

6   calculation result.

1   9.   A storage medium storing a control program to have

2   a computer carry out a user authentication method for checking

3   whether a user is qualified for using a service provided through

4   a network, said method comprising:

5   a step of registration of user authentication information

6   to register a numerical calculation method designated by said user

7   and being specific to said user as said user authentication

8   information together with user identification information

9   corresponding to said user; and

10   a step of judging, when said user identification

11   information is transmitted from said user through said network

12   to a service providing site and an arbitrary numeric value is

13   transmitted from said service providing site through said network

14   to said user, whether a first calculation result obtained by using

15   said arbitrary numeric value which has been transmitted from said

16   user through said network to said service providing site agrees

17   with a second calculation result obtained by applying said

18   arbitrary numeric value to said registered numerical calculation

19   method to perform user authentication.

1   10.   A storage medium storing a control program to have

2   a computer carry out a user authentication method for checking

3   whether a user is qualified for using a service provided through

4   a network, said method comprising:

5   a step of registration of user authentication information

6   to register a numerical calculation method designated by said user

7   through said network and being specific to said user as said user

8   authentication information together with user identification

9   information corresponding to said user; and

10   a step of judging, when said user identification

11   information is transmitted from said user through said network

12   to a service providing site and an arbitrary numeric value is

13   transmitted from said service providing site through said network

14   to said user and a first calculation result corresponding to said

15   arbitrary numeric value is transmitted from said user through said

16   network to said service providing site, whether said first

17   calculation result agrees with a second calculation result

18   obtained by applying said arbitrary numeric value to said

19   registered numerical calculation method to perform said user

20   authentication.

1   11.   A storage medium storing a control program to have

2   a computer carry out a network system comprising:

3   one or a plurality of user terminals by which a user

4   transmits a numerical calculation method being specific to said

5   user together with user identification information corresponding

6   to said user through a network to a service providing site and

7   transmits a first calculation result obtained by applying a given

8   numeric value to said numerical calculation method through said

9   network to said service providing site;

10   one or a plurality of service providing sites to register

11   said numerical calculation method together with said user

12   identification information corresponding to said user, to

13   transmit an arbitrary numeric value through said network to said

14   user terminal when said user identification information is

15   transmitted from said user terminal through said network and to

16 judge, when said first calculation result corresponding to said

17 arbitrary numeric value is transmitted from said user terminal

18 through said network, whether said first calculation result

19 agrees with a second calculation result obtained by applying said

20 arbitrary numeric value to said registered numerical calculation

21 method to perform said user authentication.